



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002107  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.

  
Analytical Supervisor

**Lab-Sample Number:** K00002107001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 4.0  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY004.0RO  
**Date/Time Collected:** 01/15/2009 10:30  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 6.84 pH Units  
**Chlorine, residual:**  
**Conductivity:** 37 uMHO  
**Temperature:** 4.99  
**Dissolved Oxygen:** 10.29 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	S Burchfield	1/17/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	13	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	S Burchfield	1/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002107002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 01/15/2009 10:45  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.75 pH Units  
**Chlorine, residual:**  
**Conductivity:** 79 uMHO  
**Temperature:** 4.11  
**Dissolved Oxygen:** 6.98 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	23	mg/L	3.8	10	S Burchfield	1/17/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.8	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	610	mg/L	10	10	S Burchfield	1/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002107003  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1 duplicate  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.1RO-FD  
**Date/Time Collected:** 01/15/2009 10:46  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**

**pH:**  
**Chlorine, residual:**  
**Conductivity:**  
**Temperature:**  
**Dissolved Oxygen:**  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	21	mg/L	3.8	10	S Burchfield	1/17/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	19	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.6	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	610	mg/L	10	10	S Burchfield	1/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002107004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River 2.1 Field Blank  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.10RO-FB  
**Date/Time Collected:** 01/15/2009 10:47  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

# Field Determinations

**pH:**  
**Chlorine, residual:**  
**Conductivity:**  
**Temperature:**  
**Dissolved Oxygen:**  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	U	mg/L	3.8	10	S Burchfield	1/17/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	S Burchfield	1/18/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002107005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 01/15/2009 11:15  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.14 pH Units  
**Chlorine, residual:**  
**Conductivity:** 39 uMHO  
**Temperature:** 5.20  
**Dissolved Oxygen:** 11.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	12	mg/L	3.8	10	S Burchfield	1/18/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	13	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	S Burchfield	1/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002107006  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 01/15/2009 11:35  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.19 pH Units  
**Chlorine, residual:**  
**Conductivity:** 42 uMHO  
**Temperature:** 5.09  
**Dissolved Oxygen:** 9.05 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	15	mg/L	3.8	10	S Burchfield	1/18/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	15	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.6	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	150	mg/L	10	10	S Burchfield	1/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002107007  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 01/15/2009 11:50  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.48 pH Units  
**Chlorine, residual:**  
**Conductivity:** 136 uMHO  
**Temperature:** 9.28  
**Dissolved Oxygen:** 11.09 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	91	mg/L	3.8	10	S Burchfield	1/18/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	73	mg/L	0.7	1	M Chen	1/16/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	M Chen	1/16/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	13	mg/L	10	10	S Burchfield	1/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**



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ENVIRONMENTAL LABORATORIES**

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6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002107  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.

Analytical Supervisor

**Lab-Sample Number:** K00002107001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 4.0  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY004.0RO  
**Date/Time Collected:** 01/15/2009 10:30  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 6.84 pH Units  
**Chlorine, residual:**  
**Conductivity:** 37 uMHO  
**Temperature:** 4.99  
**Dissolved Oxygen:** 10.29 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	160	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	150	µg/L	6.4	10	M Pattanayek	1/19/2009
Antimony	2.0	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	24	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	0.28J	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	3.2	µg/L	0.38	1	M Pattanayek	1/17/2009
Lead	0.33J	µg/L	0.10	1	M Pattanayek	1/17/2009
Manganese	33	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	0.74J	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.20J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	6.4	µg/L	1.9	5	M Pattanayek	1/17/2009

**Lab-Sample Number:** K00002107001  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 4.0  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY004.0RO  
**Date/Time Collected:** 01/15/2009 10:30  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 6.84 pH Units  
**Chlorine, residual:**  
**Conductivity:** 37 uMHO  
**Temperature:** 4.99  
**Dissolved Oxygen:** 10.29 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

**Lab-Sample Number:** K00002107002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 01/15/2009 10:45  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.75 pH Units  
**Chlorine, residual:**  
**Conductivity:** 79 uMHO  
**Temperature:** 4.11  
**Dissolved Oxygen:** 6.98 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	1700	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	4000	µg/L	6.4	10	M Pattanayek	1/19/2009
Antimony	1.4	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	43	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	210	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	0.99J	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	11	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	2.2	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	13	µg/L	0.38	1	M Pattanayek	1/17/2009
Lead	4.3	µg/L	0.10	1	M Pattanayek	1/17/2009
Manganese	53	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	4.0	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.79J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	42	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	8.8	µg/L	1.9	5	M Pattanayek	1/17/2009

**Lab-Sample Number:** K00002107002  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 01/15/2009 10:45  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.75 pH Units  
**Chlorine, residual:**  
**Conductivity:** 79 uMHO  
**Temperature:** 4.11  
**Dissolved Oxygen:** 6.98 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002107003  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1 duplicate  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.1RO-FD  
**Date/Time Collected:** 01/15/2009 10:46  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

# Field Determinations

**pH:**  
**Chlorine, residual:**  
**Conductivity:**  
**Temperature:**  
**Dissolved Oxygen:**  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	2200	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	5600	µg/L	128.0	200	M Pattanayek	1/19/2009
Antimony	1.2	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	43	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	230	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	1.2	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	12	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	2.9	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	16	µg/L	0.38	1	M Pattanayek	1/17/2009
Lead	6.0	µg/L	0.10	1	M Pattanayek	1/17/2009
Manganese	56	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	5.4	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.88J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	45	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	10.0	µg/L	1.9	5	M Pattanayek	1/17/2009

**Lab-Sample Number:** K00002107003  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 2.1 duplicate  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.1RO-FD  
**Date/Time Collected:** 01/15/2009 10:46  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations****pH:****Chlorine, residual:****Conductivity:****Temperature:****Dissolved Oxygen:****Other:****Flow:**

CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002107004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River 2.1 Field Blank  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.10RO-FB  
**Date/Time Collected:** 01/15/2009 10:47  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

# Field Determinations

**pH:**  
**Chlorine, residual:**  
**Conductivity:**  
**Temperature:**  
**Dissolved Oxygen:**  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	1/17/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	U	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	U	µg/L	0.38	1	M Pattanayek	1/17/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.06J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	1/17/2009

TEST: Mercury			METHOD: EPA 245.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

**Lab-Sample Number:** K00002107004  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River 2.1 Field Blank  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY002.10RO-FB  
**Date/Time Collected:** 01/15/2009 10:47  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations****pH:****Chlorine, residual:****Conductivity:****Temperature:****Dissolved Oxygen:****Other:****Flow:**

CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002107005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 01/15/2009 11:15  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.14 pH Units  
**Chlorine, residual:**  
**Conductivity:** 39 uMHO  
**Temperature:** 5.20  
**Dissolved Oxygen:** 11.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	240	µg/L	6.4	10	M Pattanayek	1/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	25	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	2.6	µg/L	0.38	1	M Pattanayek	1/17/2009
Lead	0.42J	µg/L	0.10	1	M Pattanayek	1/17/2009
Manganese	32	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	0.68J	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.04J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	5.7	µg/L	1.9	5	M Pattanayek	1/17/2009

**Lab-Sample Number:** K00002107005  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 01/15/2009 11:15  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.14 pH Units  
**Chlorine, residual:**  
**Conductivity:** 39 uMHO  
**Temperature:** 5.20  
**Dissolved Oxygen:** 11.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002107006  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 01/15/2009 11:35  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.19 pH Units  
**Chlorine, residual:**  
**Conductivity:** 42 uMHO  
**Temperature:** 5.09  
**Dissolved Oxygen:** 9.05 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	680	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	820	µg/L	6.4	10	M Pattanayek	1/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	4.7J	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	54	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	0.20J	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	2.8J	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	1.0	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	3.7	µg/L	0.38	1	M Pattanayek	1/17/2009
Lead	1.3	µg/L	0.10	1	M Pattanayek	1/17/2009
Manganese	77	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.12J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	3.5J	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	7.5	µg/L	1.9	5	M Pattanayek	1/17/2009

**Lab-Sample Number:** K00002107006  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 01/15/2009 11:35  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.19 pH Units  
**Chlorine, residual:**  
**Conductivity:** 42 uMHO  
**Temperature:** 5.09  
**Dissolved Oxygen:** 9.05 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL  
MDL - Method Detection Limit  
MQL - Method Quantitation Limit  
U - Undetected

**Lab-Sample Number:** K00002107007  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 01/15/2009 11:50  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.48 pH Units  
**Chlorine, residual:**  
**Conductivity:** 136 uMHO  
**Temperature:** 9.28  
**Dissolved Oxygen:** 11.09 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/17/2009				M Pattanayek	1/17/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	260	µg/L	2.9	10	M Pattanayek	1/20/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	250	µg/L	6.4	10	M Pattanayek	1/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	1/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/17/2009
Barium	34	µg/L	2.5	5	M Pattanayek	1/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/17/2009
Cobalt	0.27J	µg/L	0.04	1	M Pattanayek	1/17/2009
Copper	1.6	µg/L	0.38	1	M Pattanayek	1/17/2009
Lead	0.50J	µg/L	0.10	1	M Pattanayek	1/17/2009
Manganese	46	µg/L	0.42	1	M Pattanayek	1/17/2009
Nickel	0.61J	µg/L	0.25	1	M Pattanayek	1/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	1/17/2009
Thallium	0.03J	µg/L	0.03	1	M Pattanayek	1/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/17/2009
Zinc	2.9J	µg/L	1.9	5	M Pattanayek	1/17/2009

**Lab-Sample Number:** K00002107007  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 01/15/2009 11:50  
**Sampler's Name:** Larry Everett  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 01/15/2009 13:55  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.48 pH Units  
**Chlorine, residual:**  
**Conductivity:** 136 uMHO  
**Temperature:** 9.28  
**Dissolved Oxygen:** 11.09 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/17/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected